A Banksy artwork in Cheltenham, UK. Scientists tried to find the artist's true identity using public data.

MATT CARDY/GETTY

the definition of which often excludes Internet research, says Metcalf.

In the United States, for instance, studies using public data (which includes that purchased from a third party) generally do not count as human-subjects research because they don't access private, identifiable information about people. They don't need to be checked by an institutional review board (IRB) or require informed consent. Guidelines issued in 2013 add that researchers should sometimes consider seeking review — if a person incorrectly assumed that access to his or her public information was restricted, for example. But IRBs have no obligation to adopt these proposals, and different committees may come to different verdicts, says Metcalf.

Peter Hedges, head of the research-operations office at the University of Cambridge, UK, argues that even researchers who use information that is undeniably public, such as Twitter data, should review the ethics of their work.

When ethics committees do assess data studies, their viewpoint might be too narrow, says Ansgar Koene, an engineer and ethicist at the University of Nottingham, UK. They tend to consider the direct damage to an individual involved in research, rather than a project's potential to do widespread harm to society. That debate flared up in September when artificial-intelligence researchers at Stanford University in California posted a preprint of research that predicted whether someone is gay from their photo; it used pictures sourced from an online dating site (see https://osf.io/zn79k). The study was approved by Stanford's IRB, but provoked condemnation from some advocacy groups for lesbian, gay, bisexual, transgender and queer (LGBTQ) people, which branded it dangerous. The study's lead author, Michal Kosinski, said the work aimed to protect people by exposing an existing threat from widely used technology. Kosinski and his colleague, Yilun Wang, discussed their results afterwards with representatives of the LGBTQ community, but Koene says that the discussion should have happened beforehand and the paper should have addressed their comments.

Computer science is a flashpoint for Internet-research ethics. Researchers in this field are not used to working with human study participants and often don't consider the ethical impact of their work, says Koene, who has surveyed approaches to ethics in different disciplines. A major concern, academics agree, is how companies use online data for research — much of which they have proprietary access to. In 2014, for example, Facebook altered users' newsfeeds without telling them, to study how this affected their emotions. A public backlash prompted Facebook to publish some details of its internal review process (M. Jackman and L. Kanerva *Wash. Lee Law Rev. Online* **72,** 442; 2016) — but there is little transparency overall about how this works, says Koene.

A major concern is how companies use online data for research.

Researchers may not want to see their science slowed by formal ethical review, which can be time-consuming and opaque. Better ethics training is one solution, says Koene. But a failure to align data science with public perceptions of what is acceptable could generate a severe reaction, he warns. "The public will see us as no different from corporate or other special-interest groups pursuing a hidden agenda," he says. ■

POLICY

Another US travel ban

Trump moves to limit visas.

BY SARA REARDON

The latest version of US President Donald Trump's travel ban could make it harder for researchers from several countries to enter the United States to attend scientific meetings, perform research or visit relatives.

On 24 September, Trump announced permanent travel restrictions on citizens of Chad, Iran, Libya, North Korea, Somalia, Syria, Venezuela and Yemen. That list includes five Muslim-majority countries that were targeted in the White House's first and second travel bans, which Trump signed in January and March. Those policies, which were designed as temporary measures, have been limited by a series of federal court rulings.

Although the latest ban largely exempts students from any travel restrictions, its provisions seem poised to limit visits to the United States by working scientists. The rules vary by country; Iranians, for instance, can enter the United States only on student visas or temporary 'J' work visas, which are common among foreign postdocs in the United States. Citizens of Libya and Yemen can no longer enter the United States on business or tourist visas, and North Koreans are barred in all circumstances.

The impact is likely to be greatest for Iran, which produces more scientists and engineers than the other countries included in the policy, says Russell Harrison, a senior legislative representative for IEEE-USA in Washington DC, which advocates for US members of the Institute of Electrical and Electronics Engineers. The travel policy will tighten security for Iranian students and for researchers who already hold J visas, subjecting them to "enhanced screening and vetting requirements" if they travel outside the United States and attempt to re-enter the country.

The White House says that the ban will stay in place until the affected countries improve their processes for screening travellers. But on 29 September, the policy drew its first legal challenge: in a federal district court in Maryland, civil-liberties groups asked to amend their lawsuit over the March travel ban to include complaints about the latest policy. Meanwhile, on 25 September, the US Supreme Court cancelled hearings for a lawsuit over the first two bans, which were partly overturned because they seemed to target Muslims. The court has asked both sides to clarify whether the latest ban negates such concerns. ■